

AMENDMENTS TO THE CLAIMS:

1.-62. (Cancelled)

63. (Currently Amended) A spinal fusion implant, comprising:
an elongate bone portion defining a longitudinal axis and having a generally rectangular cross-section transverse to the longitudinal axis, said bone portion comprising:
a first end portion and an opposite second end portion;
a first bone engaging surface;
a second bone engaging surface; and
a first sidewall extending between said first and second bone engaging surfaces, wherein the first sidewall comprises a concave surface extending axially between said first and second end portions.

64. (Previously Presented) The implant of claim 63 wherein the concave surface is arcuate.

65. (Previously Presented) The implant of claim 63, wherein said bone portion is formed from a donor bone segment having at least a portion of a medullary canal and the concave surface defines a portion derived from the medullary canal.

66. (Currently Amended) The implant of claim 63 comprising a second sidewall having a convex portion extending axially between said first and second end portions.

67. (Previously Presented) The implant of claim 63 comprising a second sidewall having a substantially planar portion.

68. (Previously Presented) The implant of claim 63 comprising a second sidewall positioned to lie substantially parallel to the first sidewall.

69. (Previously Presented) The implant of claim 63 wherein the first bone engaging surface is substantially crescent shaped.

70. (Previously Presented) The implant of claim 63, wherein at least one of the first and second bone engaging surfaces include ridges or teeth.

71. (Previously Presented) The implant of claim 63 wherein the first bone engaging surface and the second bone engaging surface are substantially planar.

72. (Currently Amended) ~~The implant of claim 63~~ A spinal fusion implant, comprising:

an elongate bone portion defining a longitudinal axis and having a generally rectangular cross-section transverse to the longitudinal axis, said bone portion comprising:

a first bone engaging surface;

a second bone engaging surface; and

a first sidewall extending between said first and second bone engaging surfaces, wherein the first sidewall comprises a concave surface; and

wherein the first bone engaging surface and the second bone engaging surface are separated by a first height adjacent to a first end and by a second height adjacent to an opposite, second end, wherein said first height is greater than the second height.

73. (Previously Presented) The implant of claim 63 wherein the first bone engaging surface and the second bone engaging surface are adapted to matingly conform to opposing endplates of adjacent vertebral bodies.

74. (Previously Presented) The implant of claim 63 wherein the first sidewall comprises a first substantially planar surface adjacent the concave surface.

75. (Currently Amended) The implant of claim 63 wherein the first sidewall comprises a first substantially planar surface adjacent a said first end portion and a second substantially planar surface adjacent a said second end portion, said concave surface extending between said first and second substantially planar surfaces.

76. (Previously Presented) The implant of claim 63 comprising a first endwall positioned between the first and second bone engaging surfaces, wherein the first endwall is adapted to engage an implant holder.

77. (Previously Presented) The implant of claim 76 wherein the first endwall comprises a recess or a projection to engage an implant holder.

78. (Currently Amended) ~~The implant of claim 76~~ A spinal fusion implant, comprising:
an elongate bone portion defining a longitudinal axis and having a generally rectangular cross-section transverse to the longitudinal axis, said bone portion comprising:
a first bone engaging surface;
a second bone engaging surface;
a first sidewall extending between said first and second bone engaging surfaces, wherein the first sidewall comprises a concave surface; and
a first endwall positioned between the first and second bone engaging surfaces, wherein the first endwall is adapted to engage an implant holder and comprises a recess extending to the concave surface.

79. (Currently Amended) ~~The implant of claim 76~~ A spinal fusion implant, comprising:
an elongate bone portion defining a longitudinal axis and having a generally rectangular cross-section transverse to the longitudinal axis, said bone portion comprising:

a first bone engaging surface;
a second bone engaging surface;
a first sidewall extending between said first and second bone engaging surfaces, wherein the first sidewall comprises a concave surface; and
a first endwall positioned between the first and second bone engaging surfaces, wherein the first endwall is adapted to engage an implant holder and comprises a bore extending substantially parallel to the longitudinal axis.

80. (Previously Presented) The implant of claim 79 wherein the bore is threaded.

81. (Currently Amended) ~~The implant of claim 76 wherein the~~ A spinal fusion implant, comprising:

an elongate bone portion defining a longitudinal axis and having a generally rectangular cross-section transverse to the longitudinal axis, said bone portion comprising:

a first bone engaging surface;
a second bone engaging surface;
a first sidewall extending between said first and second bone engaging surfaces, wherein the first sidewall comprises a concave surface; and
a first endwall positioned between the first and second bone engaging surfaces, wherein the first endwall is adapted to engage an implant holder and comprises a recess defines defining a groove extending substantially parallel to the longitudinal axis.

82. (Currently Amended) A spinal fusion implant, comprising:
an elongate bone portion defining a length along extending along a longitudinal axis and comprising:
a first sidewall comprising a concave surface extending along the length;
a second, opposite sidewall comprising a convex surface extending along the length and arranged generally parallel to the concave surface;

a first bone engaging surface positioned between the first and second sidewalls; and

a second bone engaging surface opposite the first bone engaging surface, wherein at least one of the first or second bone engaging surfaces comprises ridges or teeth.

83. (Currently Amended) ~~The implant of claim 82 comprising~~ A spinal fusion implant, comprising:

an elongate bone portion defining a longitudinal axis and comprising:

a first sidewall comprising a concave surface;

a second, opposite sidewall comprising a convex surface generally parallel to the concave surface;

a first bone engaging surface positioned between the first and second sidewalls;

a second bone engaging surface opposite the first bone engaging surface, wherein at least one of the first or second bone engaging surfaces comprises ridges or teeth;
and

a tool attachment end positioned between the first and second bone engaging surfaces, said tool attachment end comprising a recess extending substantially parallel to the longitudinal axis from the tool attachment end to the convex surface.

84. (Currently Amended) A system for spinal fusion of adjacent vertebrae, said system comprising a pair of spinal implants, each of said spinal implants comprising:

an elongate bone portion defining a longitudinal axis and having a generally rectangular cross-section transverse to the longitudinal axis;

a first end portion and an opposite second end portion;

a first bone engaging surface;

a second, opposite bone engaging surface; and

a first sidewall extending between said first and second bone engaging surfaces, said first sidewall comprising a concave portion; extending axially between said first and second end

portions; and

wherein said pair of implants are positioned in an intervertebral space whereby the concave portions define a chamber.

85. (Previously Presented) The system of claim 84 wherein the chamber comprises an osteogenic material.

86. (Currently Amended) The system of claim 84 wherein the implants do not contact each other when positioned in the intervertebral space.

87. (Previously Presented) The system of claim 84 wherein the implants are positioned to lie at an angle oblique to each other.

88. (Currently Amended) The system of claim 84 wherein each of the implants comprises a tool attachment end positioned posteriorly in the intervertebral space.

89. (Previously Presented) The implant of claim 63 wherein the elongate bone portion has a generally rectangular cross-section in a plane including the longitudinal axis.

90. (Previously Presented) The implant of claim 63 wherein the elongate bone portion has a generally crescent shaped cross-section in a plane including the longitudinal axis.

91. (Currently Amended) The implant of claim 90 wherein the crescent shaped cross-section terminates in a substantially straight edge adjacent the first end portion.

92. (Previously Presented) The implant of claim 91 wherein the crescent shaped cross-section includes a concave edge disposed between a first substantially straight edge and a second substantially straight edge, said first and second straight edges extending generally parallel to the longitudinal axis.

93. (Currently Amended) ~~The implant of claim 92~~ A spinal fusion implant, comprising:

an elongate bone portion defining a longitudinal axis and having a generally rectangular cross-section transverse to the longitudinal axis, said bone portion comprising:

a first bone engaging surface;

a second bone engaging surface;

a first sidewall extending between said first and second bone engaging surfaces, wherein the first sidewall comprises a concave surface; and

wherein the elongate bone portion has a generally crescent shaped cross-section in a plane including the longitudinal axis;

wherein the crescent shaped cross-section includes a concave edge disposed between a first substantially straight edge and a second substantially straight edge, said first and second substantially straight edges extending generally parallel to the longitudinal axis; and

wherein the first endwall comprises a recess extending to the concave surface.

94. (Currently Amended) The implant of claim 90 wherein the crescent shaped cross-section terminates in a substantially straight edge adjacent the second end portion.

95. (Currently Amended) An implant for implantation in a disc space between adjacent vertebrae, said implant formed of bone and comprising:

a first end portion having a tool engaging recess and an opposite second end portion;

a first bone engaging surface and an opposite second bone engaging surface;

a first side wall disposed between the first bone engaging surface and the second bone engaging surface, said first side wall having a cavity disposed between the first end portion

and the second end portion and extending from the first bone engaging surface to the second bone engaging surface, said cavity defined by a concave surface extending axially between the first end portion and the second end portion; and

a second side wall opposite the first side wall, wherein said implant has a generally rectangular cross-section parallel to the first end.

96. (Currently Amended) The implant of claim 95 ~~where~~ wherein the first bone engaging surface and the second bone engaging surface are substantially parallel.

97. (Currently Amended) The implant of claim 96 wherein the second side wall is comprises a substantially planar portion.

98. (Currently Amended) The implant of claim 96 wherein the second side wall is comprises a curved portion.

99. (Currently Amended) The implant of claim 96 wherein the first bone engaging surface and the second bone engaging surface includes ridges or teeth.

100. (Previously Presented) The implant of claim 96 wherein the tool engaging recess comprises an opening to engage an implant holder.

101. (Currently Amended) ~~The implant of claim 96~~ An implant for implantation in a disc space between adjacent vertebrae, said implant formed of bone and comprising:
a first end and an opposite second end;
a first bone engaging surface and an opposite second bone engaging surface;
a first side wall disposed between the first bone engaging surface and the second bone engaging surface, said first side wall having a cavity disposed between the first end and the second end and extending from the first bone engaging surface to the second bone engaging surface; and

a second side wall opposite the first side wall, wherein said implant has a generally rectangular cross-section parallel to the first end; and

wherein the first bone engaging surface and the second bone engaging surface are separated by a first height adjacent to the first end and by a second height adjacent to the second end, wherein said first height is less than the second height.

102. (Currently Amended) The implant of claim 101 wherein the first bone engaging surface and the second bone engaging surface includes ridges or teeth.

103. (Currently Amended) The implant of claim ~~101~~ 95 wherein the tool engaging recess comprises a slot extending to the cavity.

104. (Previously Presented) The implant of claim ~~101~~ 95 wherein the tool engaging recess comprises a slot extending along the second side wall for engaging an implant holder.

105. (Previously Presented) The implant of claim 101 wherein the second side wall comprises a substantially planar portion.

106. (Previously Presented) The implant of claim 101 wherein the second side wall comprises a curved portion.